



SEMICOND. RELAY 3RF2,  
1-PHASE WIDTH 22.5 MM,  
20 A 24-230 V / 110-230 V AC SPRING-LOADED  
TERMINAL

### General technical data:

Product brand name		SIRIUS
product designation		solid-state relays
Product function		zero-point switching
Number of poles / for main current circuit		1
Protection class IP		IP20
Ambient temperature		
• during operating	°C	-25 ... 60
• during storage	°C	-55 ... 80
Installation altitude / at a height over sea level / maximum	m	1,000
Resistance against vibration / according to IEC 60068-2-6		2g
Resistance against shock / according to IEC 60068-2-27		15g / 11 ms
Item designation		
• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750		K
• according to DIN EN 61346-2		Q
Number of NC contacts / for auxiliary contacts		0
Number of NO contacts / for auxiliary contacts		0
Number of change-over switches / for auxiliary contacts		0

### Main circuit:

<b>Number of NO contacts / for main contacts</b>		1
<b>Number of NC contacts / for main contacts</b>		0
<b>Operating current</b>		
• at AC-1 / at 400 V / rated value	A	20
• at AC-51 / rated value	A	20
<b>Operating current / minimum</b>	mA	100
<b>Operating voltage</b>		
• at 50 Hz / at AC / rated value	V	24 ... 230
• at 60 Hz / at AC / rated value	V	24 ... 230
<b>Working area related to the operating voltage</b>		
• at 50 Hz / for AC	V	20 ... 253
• at 60 Hz / for AC	V	20 ... 253
<b>Operating frequency</b>		
• rated value	Hz	50 ... 60
<b>Relative symmetrical tolerance / of the operation frequency</b>	%	10
<b>Insulation voltage / rated value</b>	V	600
<b>Voltage slew rate / at the thyristor / for main contacts / maximum permissible</b>	V/μs	500
<b>Block voltage / at the thyristor / for main contacts / maximum permissible</b>	V	800
<b>Reverse current / of the thyristor</b>	mA	10
<b>Derating temperature</b>	°C	40
<b>Active power loss / total / typical</b>	W	28.6
<b>Resistance against the impulse current / rated value</b>	A	200
<b>I<sup>2</sup>t-level / maximum</b>	A <sup>2</sup> ·s	200

#### Control circuit:

<b>Control supply voltage frequency</b>		
• 1 / rated value	Hz	50
• 2 / rated value	Hz	60
<b>Type of voltage / of the controlled supply voltage</b>		AC
<b>Control supply voltage / 1</b>		
• at 50 Hz / for AC		
• initial rated value	V	110
• final rated value	V	230
• at 60 Hz / for AC		
• initial rated value	V	110
• final rated value	V	230
<b>Control supply voltage</b>		
• at 50 Hz / for AC / final value for signal<0>-recognition	V	40
• at 60 Hz / for AC / final value for signal<0>-recognition	V	40

<b>Tolerance of the line frequency</b>	Hz	5
<b>Relative symmetrical tolerance / of the supply voltage frequency</b>	%	10
<b>Control current</b> <ul style="list-style-type: none"> <li>• at minimum control supply voltage / for AC</li> <li>• for AC / rated value</li> <li>• at minimum control supply voltage / for DC</li> <li>• for DC / rated value</li> </ul>	mA mA mA mA	2 15 2 6
<b>Fuse assignments</b>	<a href="https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf">https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf</a>	

Installation/mounting/dimensions:		
<b>Type of mounting</b>		screw fixing
<b>Type of fixing/fixation / series installation</b>		Yes
<b>Design of the thread / of the screw for fastening of the operating resource</b>		M4
<b>Tightening torque / of the screw for fastening of the operating resource</b>	N·m	1.5
<b>Width</b>	mm	22.5
<b>Height</b>	mm	85
<b>Depth</b>	mm	48

Connections:		
<b>Design of the electrical connection / for main current circuit</b>		spring-loaded terminals
<b>Tightening torque / for main contacts</b> <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	N·m	2 ... 2.5
<b>Tightening torque (lbf·in) / for main contacts</b> <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	lbf·in	7 ... 10.3
<b>Type of the connectable conductor cross-section</b> <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded <ul style="list-style-type: none"> <li>• with conductor end processing</li> <li>• without conductor final cutting</li> </ul> </li> </ul> </li> <li>• for AWG conductors <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary and control contacts</li> </ul> </li> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded <ul style="list-style-type: none"> <li>• with conductor end processing</li> </ul> </li> </ul> </li> </ul>		2x (0.5 ... 2.5 mm <sup>2</sup> )  2x (0.5 ... 1.5 mm <sup>2</sup> ) 2x (0.5 ... 2.5 mm <sup>2</sup> )  2x (18 ... 14) 1x (AWG 20 ... 12)  0.5 ... 1.5 mm <sup>2</sup>  0.5 ... 2.5 mm <sup>2</sup>

• without conductor final cutting		0.5 ... 2.5 mm <sup>2</sup>
<b>Conductor cross section that can be connected</b>		
• for main contacts		
• solid	mm <sup>2</sup>	0.5 ... 2.5
• stranded wire		
• with conductor end processing	mm <sup>2</sup>	0.5 ... 1.5
• without conductor final cutting	mm <sup>2</sup>	0.5 ... 2.5
• for auxiliary and control contacts		
• solid	mm <sup>2</sup>	0.5 ... 1.5
• stranded wire		
• with conductor end processing / minimum	mm <sup>2</sup>	0.5 ... 2.5
• without conductor final cutting	mm <sup>2</sup>	0.5 ... 2.5
<b>AWG number / as coded connectable conductor cross-section / for main contacts</b>		14 ... 10
<b>Design of the electrical connection / for auxiliary and control current circuit</b>		spring-loaded terminals
<b>AWG number / as coded connectable conductor cross-section</b>		
• for auxiliary and control contacts		20 ... 12
<b>Skinning length / of the cable / for main contacts</b>	mm	10
<b>Skinning length / of the cable / for auxiliary and control contacts</b>	mm	10

#### Certificates/approvals:

##### General Product Approval



[ROSTEST](#)



##### Test Certificates

[Manufacturer](#)

##### other

[Manufacturer](#)

#### Further information:

##### Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

##### Industry Mall (Online ordering system)

<http://www.siemens.com/industrial-controls/mall>

##### CAX-Online-Generator

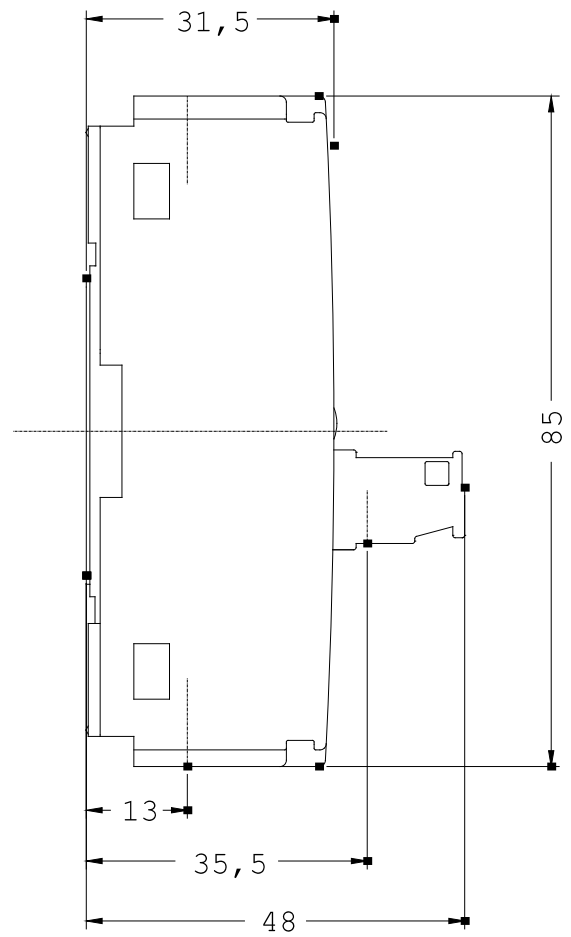
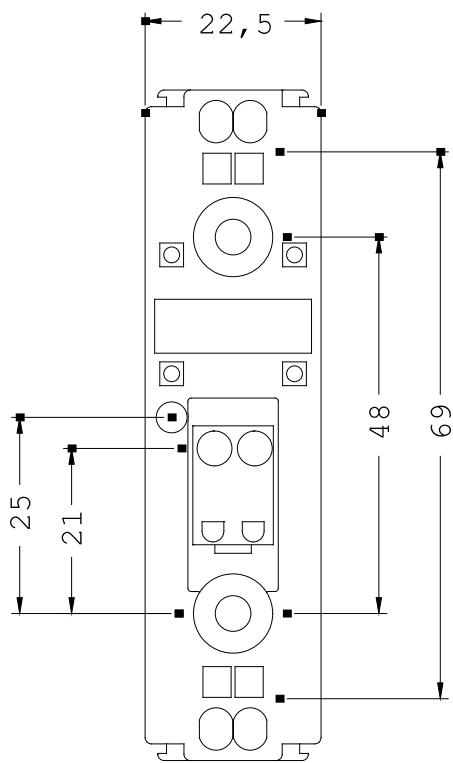
<http://www.siemens.com/cax>

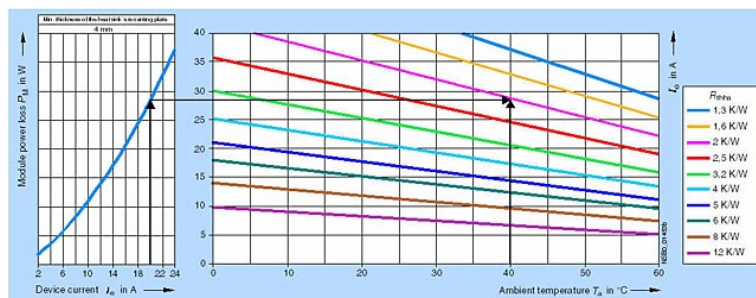
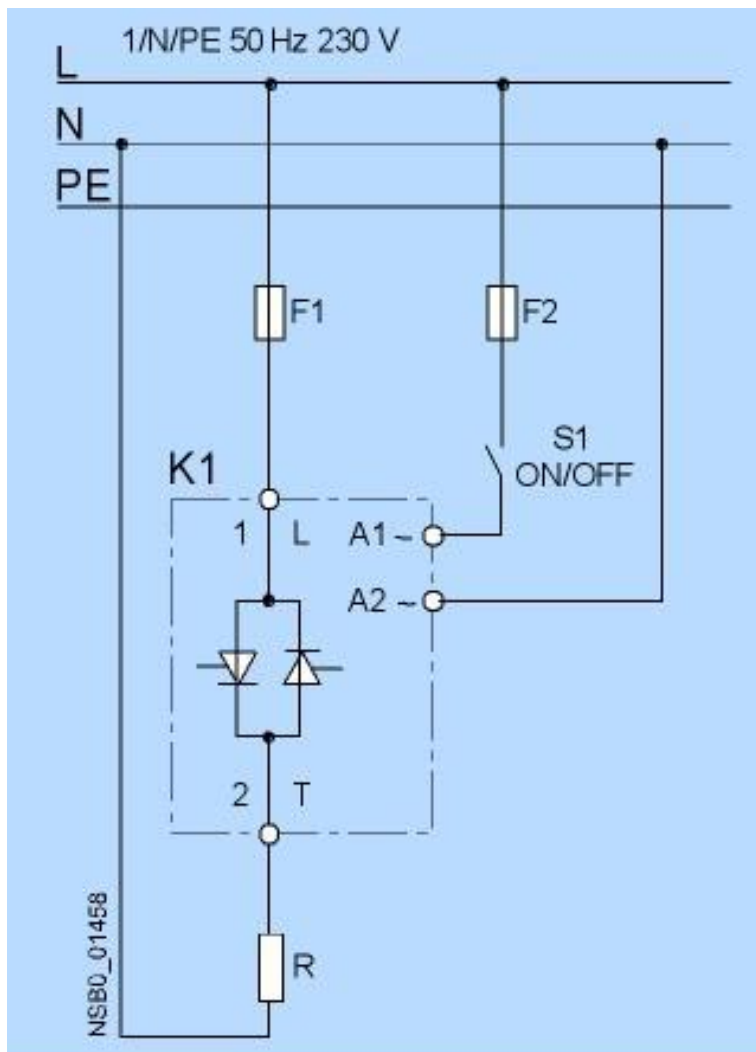
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF2120-2AA22/all>

##### Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2120-2AA22](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2120-2AA22)





last change:

Aug 22, 2011